

REMARKS

Claims 2-6 stand rejected under 35 USC § 112, first paragraph, as not enabling one skilled in the art to which it pertains, or with which it most nearly connected, to make and/or use the invention. Claims 2-6 stand rejected under 35 USC § 103 as being unpatentable over US Patent 6,014,256 to Cheng (hereinafter "Cheng").

Applicant respectfully traverses these rejections for the reasons stated below.

The 35 USC §112 Rejection

Applicant thanks the Examiner for pointing out the deficiencies in claims 2-6. Claims 2-6 have been amended to particularly point out and distinctly claim subject matter which Applicant regards as the invention. The Applicant amended the Claim 2 to claim what was described in the specification and the drawings previously submitted. Accordingly, the Applicant believes the 35 U.S.C. 112 rejection has been traversed and the claims are now in a condition for allowance.

The 35 USC§ 103 Rejection

Claims 2-6 stand rejected under 35 USC § 103(a) as being unpatentable over the US Patent 6,014,256 to Cheng.

The Examiner has not satisfied the *prima facie* requirements for a Section 103 rejection

The threshold issue under Section 103 is whether the Examiner has established a *prima facie* case for obviousness. To establish a *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested in the prior art. MPEP § 2143.03.

Applicant respectfully suggests the Examiner has failed to establish a *prima facie* case of obviousness as the Examiner has failed to identify three distinct axes in the Cheng patent.

Argument

Initially, the Applicant respectfully disagrees with the Examiner's characterization of the present invention and the Cheng reference. In his Office Action, The Examiner describes three axes in the Cheng patent:

As seen, there is a first fiber (16c) defining a first axis, a second fiber (16a) defining a second axis and a third fiber (16b) defining a third axis which is parallel to and spaced apart from the second axis. (See Office Action Page 3.)

The Applicant respectfully disagrees with this assertion for the following reasons.

The prior art of record

The Examiner has proposed that the Cheng reference describes three axes (See Examiner's Office Action at page 2, paragraph 4). Applicant respectfully submits that the Cheng reference actually teaches a device containing two optical axes.

Applicant notes that the second optical axis as defined by the second fiber (16a) is the same axis as the first optical axis as defined by the first fiber (16c). The second fiber (16a) and first fiber (16c) are both normal to, and aligned on either side of, the focusing crystal 32. Therefore, second fiber (16a) and first fiber (16c) do not define separate axes and in fact define the same axis.

On the contrary, the invention as claimed in Claim 2 of the application has three distinct axes:

- a first optical fiber having an end defining a first optical axis;
- a second optical fiber having an end defining a second optical axis;
- a third optical fiber having an end defining a third optical axis parallel to and spaced apart from said second optical axis...

Therefore, the Applicant respectfully submits that the Examiner has failed to show that the Cheng reference describes three distinct axes as presently claimed.

Accordingly, the Applicant believes the 35 U.S.C. 103(a) rejection has been traversed and that claims 2-6 are now in a condition for allowance.

Applicant has also added new claims 7-22 which also include a optical polarizer/beam splitter having three distinct axes. Applicant believes that the new claims are allowable over the prior art of record.

CONCLUSION

For the above reasons, Applicant respectfully submits that all of the claims are in condition for allowance and Applicant respectfully requests reexamination of the present application, reconsideration and withdrawal of the present rejections and entry of the amendments.

No additional fee is due.

On the basis of the above remarks, early consideration of this application and early allowance are respectfully requested.

Respectfully,

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Clean Sheet of Amended Claims

Claim 2 as amended:

2. (Amended) An optical polarization beam splitter comprising:
- a first optical fiber having an end defining a first optical axis;
 - a second optical fiber having an end defining a second optical axis;
 - a third optical fiber having an end defining a third optical axis parallel to and spaced apart from said second optical axis;
 - a collimating lens disposed along said first optical axis positioned to form a collimated optical beam from said first optical fiber;
 - a focussing lens disposed along a path of said collimated optical beam;
 - a birefringent walk-off crystal having a first face adjacent to said focusing lens[and a second], said first face located at a focal plane of said focusing lens and a second face in contact with said ends of said second and third optical fibers, said crystal oriented such that and having a thickness between said first and second faces selected such that a first component of said optical beam having a first polarization exiting said crystal at said second face enters said end of said second optical fiber along said second optical axis and a second component of said optical beam having a second polarization orthogonal to the polarization of said first polarization exiting said crystal at said second face enters said end of said third optical fiber along said third optical axis.